

MY TAJWID MOBILE APPLICATION

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ABSTRACT

Mobile technology has nowadays become trend in various fields, either in business, education, health, engineering, etc. The need of mobility in accomplishing work is increasing as the technology created more advanced mobile devices that are capable in multitasking such as the smartphones. Tajweed program application for the Android operating system is an application program that provides the teaching of reading and understanding the Tajweed knowledge. There also quiz given to analyzing the understanding of the learning process. Hopefully with the e-learning program Tajweed give new source to gain knowledge especially in enhancing recitation process in Quran. Tajweed application program provides outstanding results to the public, because the system content is accurate and give priority to efficiency and effectiveness. Some of them are people who have used the mobile applications program based. So this is an exciting opportunity that can be used to assist parents or Quran teachers to teach Tajweed.

ABSTRAK

Teknologi mudah alih telah menjadi trend pada masa kini dalam pelbagai bidang, sama ada dalam perniagaan, pendidikan, kesihatan, kejuruteraan, dan lain-lain. Keperluan mudah alih dalam mencapai kerja semakin meningkat kerana teknologi yang mencipta peranti mudah alih yang lebih maju mampu melakukan pelbagai tugas seperti telefon pintar. Aplikasi Tajwid untuk sistem operasi Android adalah program aplikasi yang menyediakan pembelajaran seperti membaca dan memahami ilmu Tajwid. Terdapat juga kuiz diberikan bertujuan menganalisis pemahaman didalam proses pembelajaran. Mudah-mudahan dengan program e-pembelajaran tajweed memberi sumber baru untuk menimba ilmu pengetahuan terutama dalam meningkatkan kualiti bacaan dalam Al-Quran. Program aplikasi Tajwid memberikan hasil yang luar biasa kepada orang ramai, kerana kandungan sistem adalah tepat dan memberi keutamaan kepada kecekapan dan keberkesanan. Sesetengah daripada mereka adalah pengguna yang telah menggunakan program aplikasi berasaskan peranti mudah alih. Jadi ini adalah satu peluang yang menarik yang boleh digunakan untuk membantu ibu bapa atau guru-guru Al-Quran untuk mengajar Tajwid.

TABLE OF CONTENTS

STUDENT DECLARATION	i
SUPERVISOR DECLARATION	ii
ACKNOWLEDGEMENT	iii
ABSTACT	iv
ABSTRAK	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	viii
LIST OF TABLES	xi
LIST OF ABBREVIATIONS	xii
CHAPTER 1: INTRODUCTION	1
1.0 Introduction	1
1.1 Problem Statement	1
1.2 Objective	3
1.3 Scopes	3
1.4 Thesis Organization	5
CHAPTER 2: LITERATURE REVIEW	6
2.1 Overview	6
2.2 Existing System	6
2.3 Comparison of existing system	14
CHAPTER 3: METHODOLOGY	15
3.1 Introduction	15
3.2 Comparison of methodology	16
3.3 Software and Hardware	21
CHAPTER 4: DESIGN	26
4.1 Overview	26
4.2 Cognitive Development	26
4.3 Device Comparison	29
4.4 Flow Charts	3
4.5 Physical Architecture	34

4.6 User Characteristics	35
4.7 Design Description	36
CHAPTER 5: IMPLEMENTATION	58
5.1 Introduction	58
5.2 My Tajwid Development Environment	58
5.3 My Tajwid architecture	59
5.4 Database architecture	60
5.5 My Tajwid interfaces and coding	61
5.6 Challenges in My Tajwid	66
5.7 Conclusions	66
CHAPTER 6: RESULT AND DISCUSSION	67
6.1 Introduction	67
6.2 Development of GUI	68
6.3 Result Testing	69
6.4 Test result	72
6.5 Conclusion	73
CHAPTER 7: CONCLUSION	74
7.1 Overall	74
7.2 Future improvement	75
APPENDICES	76
REFERENCES	78

LIST OF FIGURES

FIGURES	PAGES
1. Figure 2.1: The main menu of Belajar Membaca Al-Quran Application	8
2. Figure 2.2: A kid is using Belajar Membaca Al-Quran Application	9
3. Figure 2.3: Rates and comments from the users of Belajar Membaca Al-Quran Application in the Google Play Store	15
4. Figure 2.4: Main menu of Tajwid Lengkap Application	10
5. Figure 2.5: Rates and comments from the users of Tajwid Lengkap Application in the Google Play Store	11
6. Figure 2.6: Main menu of Belajar Tajwid Application	12
7. Figure 2.7: Rates and comments from the users of Belajar Tajwid Application in the Google Play Store	13
8. Figure 3.1: Common phases of SDLC	15
9. Figure 3.2: Waterfall methodology phases	17
10. Figure 3.3: RAD methodology phases	18
11. Figure 3.4: Agile methodology phases	19
12. Figure 3.5: Gantt Chart PSM 1	26
13. Figure 3.6: Gantt Chart PSM 2	27
14. Figure 4.1: Flowchart of My Tajwid System	33
15. Figure 4.2: Physical architecture of My Tajwid System	34
16. Figure 4.3: Context Diagram of My Tajwid System	36
17. Figure 4.4: Data Flow Diagram level 0 of My Tajwid System	37
18. Figure 4.5: Screen Dialogue for user (kids) in My Tajwid system	38

19. Figure 4.6: Screen Dialogue for parent in My Tajwid system	39
20. Figure 4.7: Welcome page for user (kids) and login button for parent	41
21. Figure 4.8: A pop-up window for parent to set the password	41
22. Figure 4.9: Registration page for user (kids) for the first time use	42
23. Figure 4.10: A Menu or home page for this application	42
24. Figure 4.11: Page of learning that display five chapter	43
25. Figure 4.12: Topic provided for chapter 1 in learning option	43
26. Figure 4.13: Example of the content in each topic	44
27. Figure 4.14: Page of training option	44
28. Figure 4.15: Example of the training session	43
29. Figure 4.16: Result of the training	45
30. Figure 4.17: Quiz page	46
31. Figure 4.18: Quiz questions with the time limit	46
32. Figure 4.19: Result user got from the quiz session	47
33. Figure 4.20: Graph bar of the overall achievement in certain time	47
34. Figure 4.21: Interface for second time login for user	48
35. Figure 4.22: Result option button is available after taking quiz	48
36. Figure 4.23: A pop-pup window for parent to enter their password	49
37. Figure 4.24: Page for parent to customize their kid's profile	49
38. Figure 4.25: Page for parent to view their kid's result	50
39. Figure 4.26: Graph of the whole progress in each chapter	50
40. Figure 4.27: Date history of the user (kids) login activity	51
41. Figure 4.28: Entity Relationship Diagram of My Tajwid system	52
42. Figure 5.2: My Tajwid Homepage	62
43. Figure 5.3: My Tajwid homepage coding in actionsript	62

44. Figure 5.4: My Tajwid register page	63
45. Figure 5.5: My Tajwid register actionscript page	63
46. Figure 5.6: My Tajwid menu page	64
47. Figure 5.7: My Tajwid syllabus page	65
48. Figure 5.8: My Tajwid syllabus actionscript page	65
49. Figure 6.1 :Homepage	69
50. Figure 6.2 :Registration	69
51. Figure 6.3 :Menu	69
52. Figure 6.4 :Syllabus	69
53. Figure 6.5 :Syllabus 1	70
54. Figure 6.6 :Syllabus 2	70
55. Figure 6.7 :Syllabus 3	70
56. Figure 6.8 :Syllabus 4	70
57. Figure 6.9 :Syllabus 5	71
58. Figure 6.10 :Quiz Start	71
59. Figure 6.11 :Example Question	71
60. Figure 6.12 :Score grade A	71
61. Figure 6.13 :Score grade B	71
62. Figure 6.14 :Score grade C	71
63. Figure 6.15 :Syllabus 5	72

LIST OF TABLES

TABLES	PAGES
1. Table 2.1: The comparison between existing mobile applications for learning Tajweed System.	12
2. Table 3.1: Comparison of methodology	14
3. Table 3.2: Comparison between different IDE features	22
4. Table 3.3: Hardware Specifications	23
5. Table 4.1: Device Comparison	29
6. Table 4.2: User (kids) Data Dictionary	53
7. Table 4.3: Date Data Dictionary	53
8. Table 4.4: Answer Data Dictionary	54
9. Table 4.5: Result Data Dictionary	54
10. Table 4.6: Quiz Data Dictionary	55
11. Table 4.7: Interface chart table of My Tajwid system	56
12. Table 6.1: Unit Testing	72

LIST OF ABBREVIATION

SDLC	System Development Life Cycle
RAD	Rapid Application Development
HCI	Human Computer Interaction
UI	User Interface
IDE	Integrated Development Environment
GUI	Graphic User Interface
IBM	International Business Machine
PHP	Hypertext Preprocessor
XML	Extensible Markup Language
HTML	Hypertext Markup Language
EJB	Enterprise Java Beans
SE	Standard Edition
EE	Enterprise Edition
SQL	Structured Query Language
PLS TFT	Plane Line Switching Thin Film Transistor
IPS LCD	in Plan Switching Liquid Crystal Display
OS	Operating System
CPU	Central Processing Unit
GPU	Graphic Processing Unit
DFD	Data Flow Diagram
ERD	Entity Relationship Diagram

CHAPTER 1

INTRODUCTION

1.0 Introduction

Nowadays, learning Quran and Tajweed is easier to do for Muslim people. Besides learning with Quran trainers, there are various medium that can be used to learn Quran and Tajweed. Among these are using television broadcast, Video CD, installed application in computer and so on. These different way of learning gives different impacts to each user. Studying Tajweed is very important to ensure there is no mistake while reciting Quran. Without a good source and technique, the percentage of mistake in reading Quran will increase. Now there is a new solution to prevent this problem from keeps occur.

With modern technology in 2014, lots of application can be use by using smartphone. This handled device is convenient and easy to bring anywhere. Besides, it is very comfortable to interact with. Therefore, learning Tajweed also can be used by using smartphone. ‘My Tajwid’ application will let users to learn, train and take quiz to measure the progress and improvement in learning Tajweed. Besides that, this system give user option to redo training and quiz with different random question to improve the previous result. There are many levels provided based on the sequence of topics and user will learn, training and take the quiz. The result from the quiz will display percentage of topics

dominated for every user. Every quiz passed in each level will be given a badge as an achievement. From this, user will be more inclined to continue using this application.

‘My Tajwid’ application have potential to let user train themselves and make them keep actively exploring Tajweed. User can measure their own understanding without have to depend on the Quran trainer. Result that achieve shows level of mastery in each topic. Therefore, the aim of this application is clearly help people understanding Tajweed deeply regardless of age. This application give parent opportunity to evaluate their kids by using different account in one device. This option give parent advantage to see their children improvement in learning Tajweed.

1.1 Problems statement.

In this cutting-edge era, Quran trainers is so difficult to be found except in the Mosque. But many people who wants to learn the Quran is staying in a residential area or a rural area that is so far from the mosque. Quran recitation activities in homes trainers today are so difficult to see due to the absence of suitable and experienced trainers. To get outside trainers, the number of students who want to learn the Quran and Tajweed should also reach a satisfactory before class begin. Furthermore, not all trainers have the time and opportunity to teach the whole Tajweed, because most of them focus on basic reading of the Quran.

Compact schedule routine also is the cause of the presence in the Quran classes. Especially to students who are proactive in performing daily activities at school during the day and taking tuition subjects at night. Also there were too tired at night and did not have enough time to attend classes to learn Quran. The study location that too far is also the factor that make people unable to presence themselves consistently. In addition, the cost factor also causes some people are not able to get the opportunity to learn the Quran and Tajweed as they are incapable. This is because, not all places provide free education because the cost of living is getting higher.

Attend Quran classes every day does not guarantee understanding and improvement of students without any strengthening exercises. Time allocated to trainers is too limit to teach overall Tajweed. Parents especially want to see the progress of their children after sending

them to learn Quran and join Tajweed classroom in a particular period. For parents who have free time, they can test the progress of their own children themselves. But what about the parents who work until late at night, and those who learn on their own. It is hard for them to keep maintaining Tajweed knowledge for their kids and themselves when they were too busy and tired. Results that recorded visually is more easily to evaluate to determine the level of real progress.

1.2 Objectives.

The goal of this project is to develop a Mobile Application for studying Tajweed knowledge. The following objectives are set:

- i. To design and develop a mobile application for 'My Tajwid' using Android application development software.
- ii. To identify the need of Muslim users for a more effective learning method.
- iii. To create a self-assessment tools to record the improvement in learning Tajweed.

1.3 Scopes.

i. System user.

The system target user is to all Malaysian Muslim kids that want to learn and improve their Tajweed. They will use the system to learn Tajweed, and training to score in the quiz to unlock the next level. The system will be used by them on mobile devices either smartphone or tablet pc when they are free.

ii. Functionality.

The application functionality is to teach Tajweed and recording the improvement of users Tajweed. There are five topics that will be covered for learning and training in this application. This application saving data recorded either in the internal storage or memory card depending on user storage option. Users can choose either to study first or directly do the quiz. There are training option where user can practicing the random question given with no time limit. The quiz result will calculate the percentage of user achievement and will preview in visual measurement. The achievement have their own level depending on the scores. If the user achieve all requirement that need, their past to the next level with badge given. Badge own represent Tajweed syllabus that has been covered successfully.

iii. Application platform.

The application is developed by using android operating system as a platform for mobile devices such as smartphone and tablet pc. Android operating system is used because it is widely used by people and operates on most of mobile devices available nowadays. Mobile platform is chosen as it is convenient to use on the move while user is free.

iv. Language.

The language used for this application is the Malay Language because the target user is Malaysian people. By using our own language, the progress will run smoothly and there will no misunderstanding instruction case. Romanization Arabic words to Malay is used to let the kids can pronounce the words in Arabic Language. So that, they know well every chapter that they learn.

1.4 Thesis Organization

The overall thesis contains of seven (7) chapters all. Chapter 1 will describe on the introduction of the system. Chapter 2 will discuss about literature review that will explain about the existing system or problem and figuring solutions. Chapter 3 will discuss about methodology used for the system, and comparison to select the best methodology. Furthermore, chapter 4 will describe well about designing phase for the system. Chapter 5 will explain the process of implementation for the system. Chapter 6 will discuss about the results analysis and last chapter will conclude all as project overall summary.

CHAPTER 2

LITERATURE REVIEW

2.1 Overview

In this chapter, there will be three subtopics that will be covered. Subtopic 2.2 will describe on existing mobile application for learning Tajweed system that will cover on three (3) systems. Subtopic 2.3 will explain on comparison of existing system of those three existing systems. The discussion will come out with the feedback of the users from Google Play Store with the screen shots. The comparison will be elaborate by table as it is the best way to make a comparison.

2.2 Existing System

There are many Tajweed learning applications that can be downloaded for free from Google Play store for Android and Apple Store for iOS platforms. Below are examples of Android applications available to learn Tajweed.

2.2.1 Belajar Membaca Al-Quran

Belajar Membaca Al-Quran (version 1.1.0) is a free application that was developed by the X-Gaf Studio to teach Quran basic reading and basic Tajweed [1]. Once downloaded, the application can continue to be used without the need to download additional data. This offline application does not need registration to allow user to use. User have two options, either to learn or continue to play the game. There are game provided in this application as an advantage for user to train their understanding. This application requires 2.3 android version and above to use it. From the Figure 2.1 below, we can see this application target user is especially for kids. The bee in the application looks like it is guiding user to interact with the system. Kids mostly would be easily attracted to the application because the cartoon animation is used with audio included. Teenage and adult user also can use the system as the content is more important than the interface.

Figure 2.2 below shows a kid is using and interact with the application. The simple and attractive Graphic User Interface (GUI) components make the learning process run smoothly. Furthermore, the audio provided make the application more interesting to be used. Some background music like ‘clapping hand’ is used to congratulate users that passed the games provided. Level passed will be given a star at least based on their success percentage. The developer of this application is smart in choosing suitable colour to make it user friendly. This suitable features will avoid the vision sickness for user that is using this application especially for kids. So they can use this application as long as how much they want.



Figure 2.1: The main menu of Belajar Membaca Al-Quran Application.

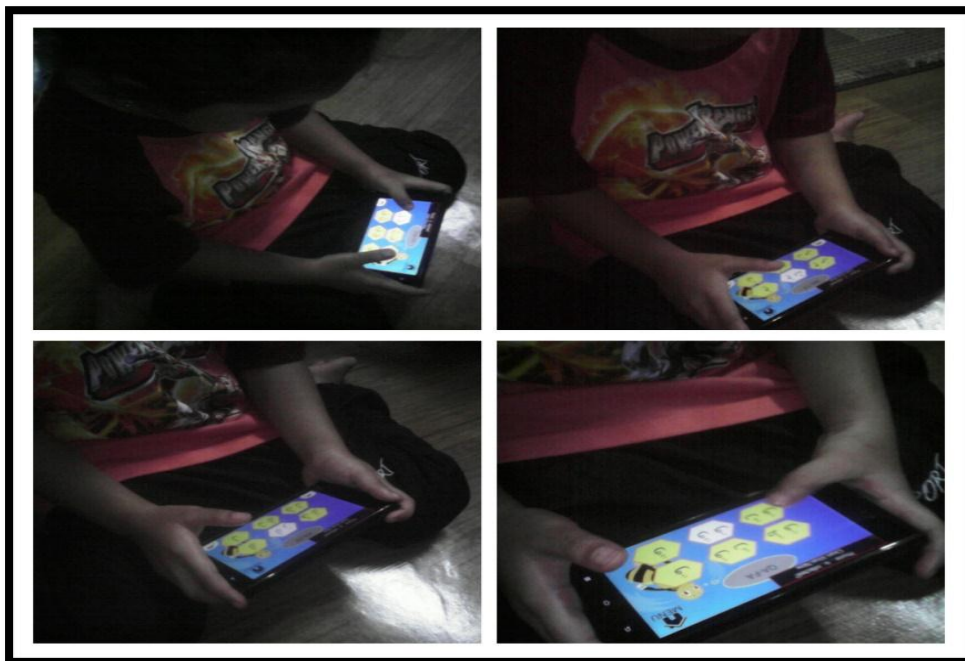


Figure 2.2: A kid is using Belajar Membaca Al-Quran Application.

2.2.1.1 Review of Belajar Membaca Al-Quran Application

An application is determined good or not is depending on the feedback of the users. Feedback is important to let developer know about advantages and disadvantages of their system. User consists of different people regardless ages or races, so their opinions might be different. Some of the user might be okay and some are not so they can suggest way of improvement that can be implemented. Google Play Store for Android and Apple Store for iOS have their own feedback platform to let user rates and comments in the application feedback space. Here are the rates and comments from the users. Figure 2.3 shows that 812 votes five stars, 202 votes for four stars, 70 votes for three stars, 36 votes for two stars and 63 votes for one star for this application. Majority of the user satisfied with the application since the votes for five stars is higher than others.

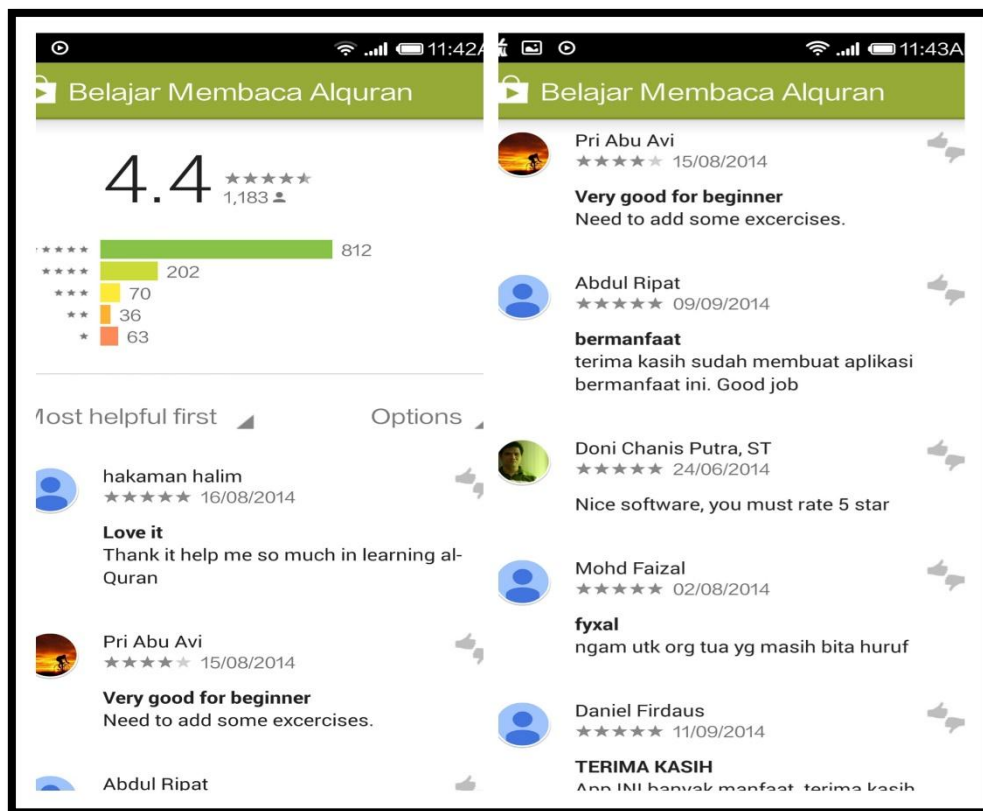


Figure 2.3: Rates and comments from the users of Belajar Membaca Al-Quran Application in the Google Play Store.

2.2.2 Tajwid Lengkap

Tajwid lengkap (version 6.0) is also a free application that was developed by the QT-media to teach the complete Tajweed with audio for each example sentences [3]. Tajwid Lengkap application is more lighter as there is no use of animation in it. Besides offline, this application can also be directly used without have to download additional data to use. Users do not need to register to use this application as there is no database used. Just download and ready to be used. This application feature is more on teaching without training option.

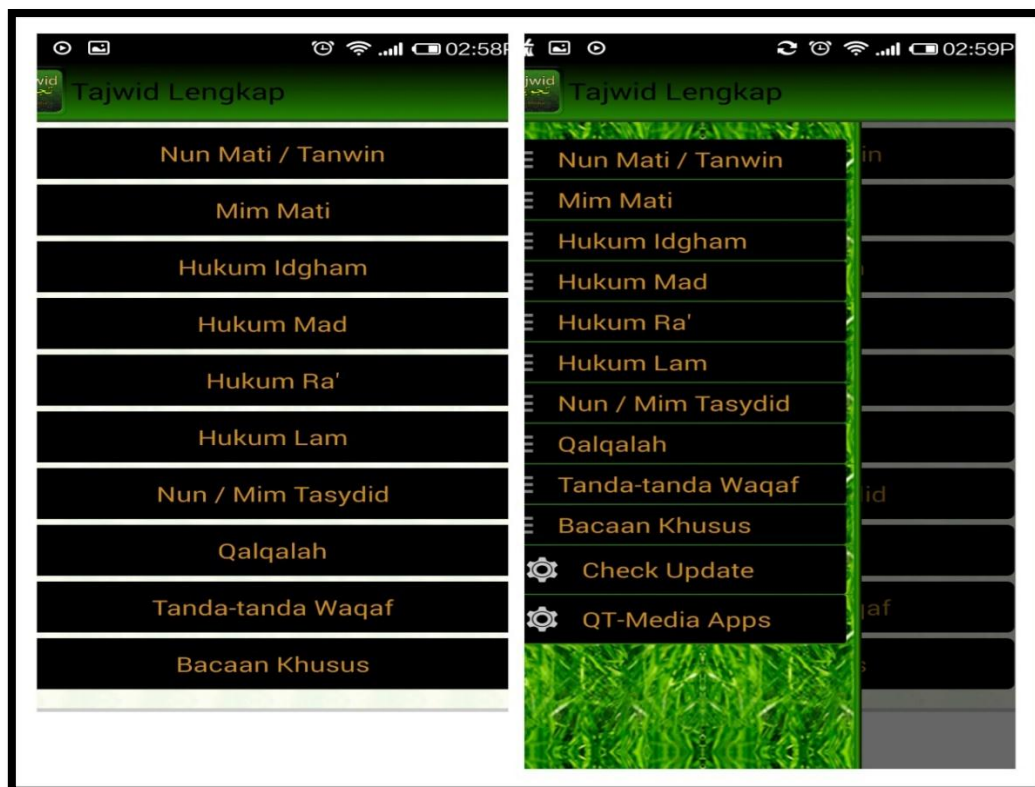


Figure 2.4: Main menu of Tajwid Lengkap Application.

2.2.2.1 Review of Tajwid Lengkap Application

Rate and comments for Tajwid Lengkap Application. From figure 2.5 there are 1825 votes for five stars, 436 votes for four stars, 145 votes for three stars, 80 votes for two stars and 97 votes for one star. Rate shows that user that satisfied with the application is more.

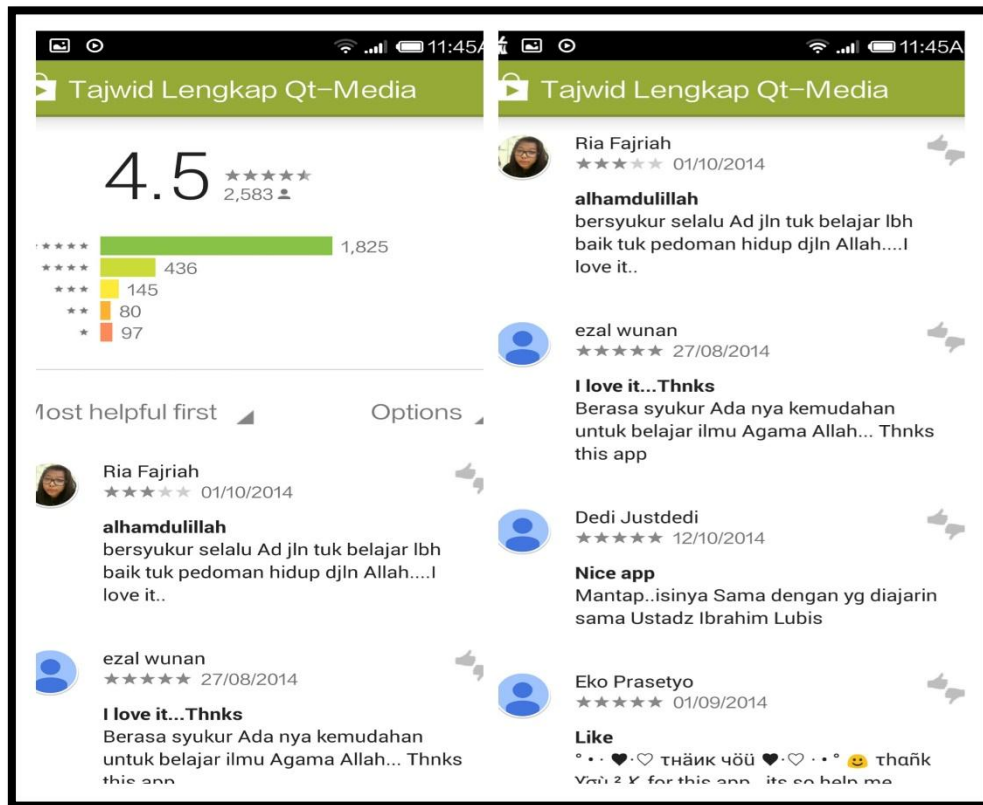


Figure 2.5: Rates and comments from the users of Tajwid Lengkap Application in the Google Play Store.

2.2.3 Belajar Tajwid

Belajar Tajwid (version 1.1) is learning Tajweed application developed by ecosolutionsystem [2]. This application uses a very simple interface and easy to interact. Users can continue to use the application after downloading without having to download additional data. In addition, this application also provides audio for each sample sentences in it. This application reach maximum functionality but have mess interface.

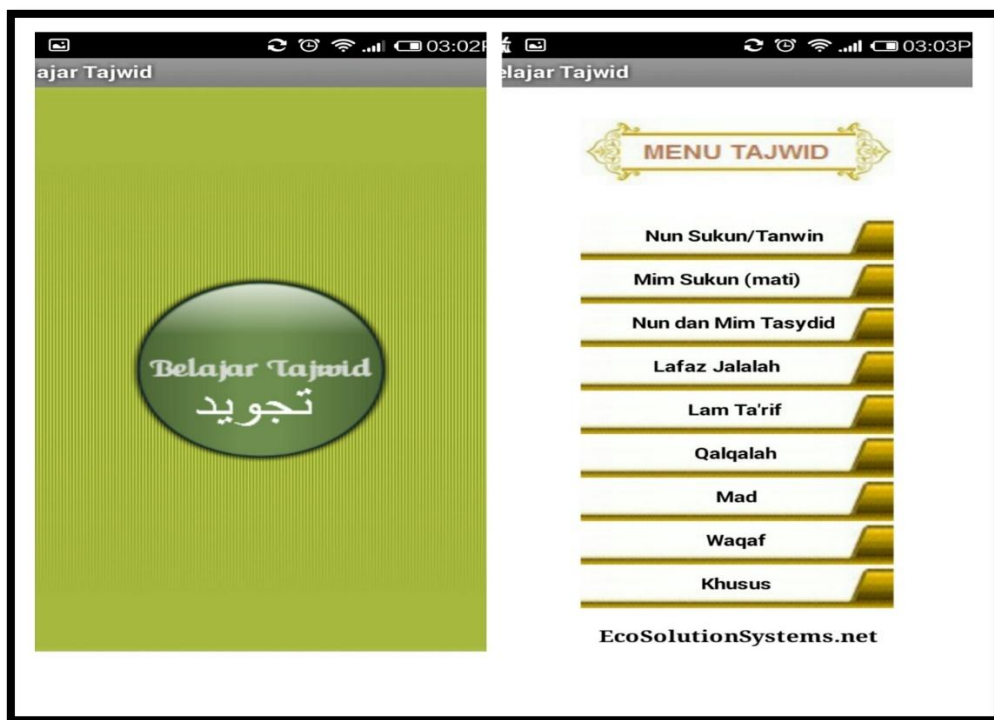


Figure 2.6: Main menu of Belajar Tajwid Application.

2.2.3.1 Review of Belajar Tajwid Application

Rate and comments from the users of Belajar Tajwid Application. Figure 2.7 shows that most of the users like this application. 1491 votes for five stars, 336 votes for four stars, 125 votes for three stars, 56 votes for two stars and 75 votes for one star.

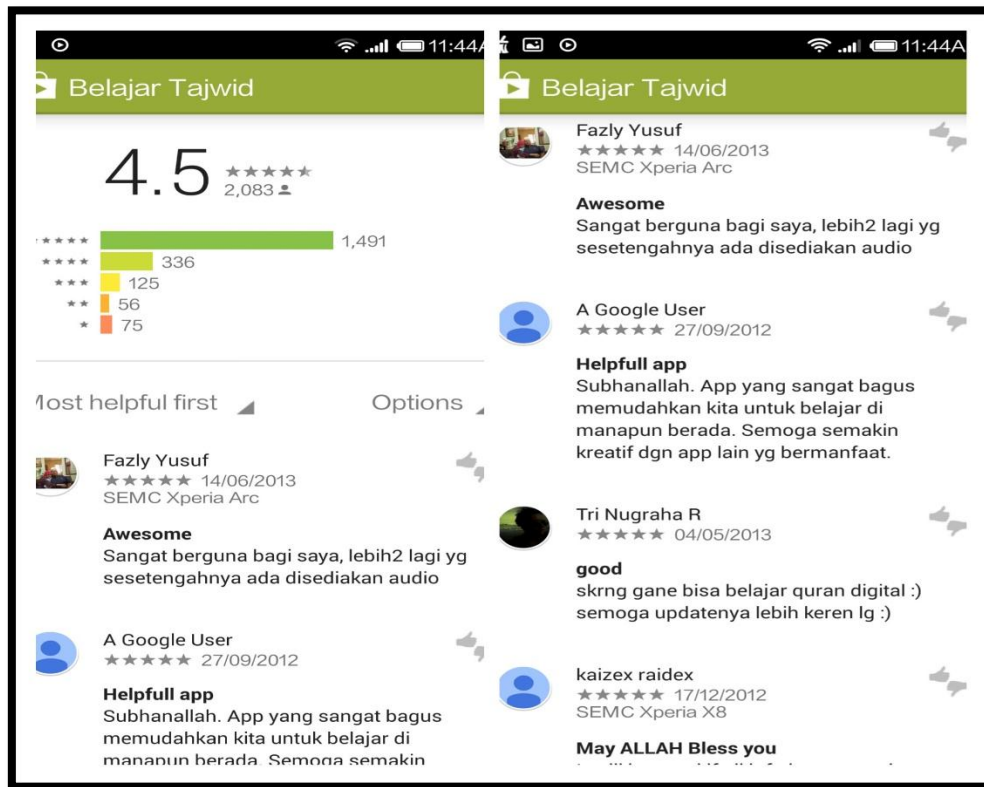


Figure 2.7: Rates and comments from the users of Belajar Tajwid Application in the Google Play Store.

2.3 The comparison of existing system

Table 2.1: The comparison between existing mobile applications for learning Tajweed System

Features / System	Belajar Membaca Al-Quran Application.	Tajwid Lengkap Application.	Belajar Tajwid Application.	My Tajwid System
Performance	Have very good and smooth performance.	Have good and smooth performance.	Have good and smooth performance but too simple.	Have very good and smooth performance.
Interface	Have very nice Interface with little animation used.	Have nice interface with suitable colour choose but yet very simple.	Interface is too simple and look messy.	Simple interface yet attractive for kids.
Graphical User Interface	Have nice and very suitable GUI tools used.	Have simple and attractive GUI tools used.	Have simple and mess GUI tools used.	Suitable GUI components used.
Functionality	More on teaching how to read Quran with basic Tajweed syllabus and provided Quiz to user.	Teaching and covering all Tajweed syllabus with audio used.	Teaching and covering all Tajweed with audio used but too slow.	Learning, training and quiz option to be choose with audio.
User friendly	Full usability.	Full usability.	Full usability but lack in understanding.	Full usability
Cost	Free	Free	Free	Free
Internet	Offline	Offline	Offline	Online